

REMARKS/ARGUMENTS

Upon entry of this Amendment, which amends Claims 43-47, 52-54, 56-58 and 61, Claims 43-61 remain pending in the present application.

In the December 15, 2004 Office Action, the specification was objected to for not including an updated status of the patent application to which the present application claims priority. The specification was also objected to for allegedly not providing proper antecedent basis for claimed subject matter. The claims were objected to for using the claims number "54" twice. Claims 43-61 were rejected under 35 U.S.C. § 112, first paragraph, for allegedly not complying with the written description requirement. Finally, Claims 54 and 56-58 were rejected under 35 U.S.C. § 112, second paragraph, for allegedly not providing proper antecedent basis for certain specified claim terms.

Applicant respectfully requests reconsideration of the claims in view of the above amendments and the comments below.

Priority

In the Office Action, it was requested that the status of the parent application listed in the specification be updated. The status of the parent applications, to which the present application claims priority, was previously updated in a Preliminary Amendment, which was filed in the USPTO on October 14, 2003. Applicant requests, therefore, that this objection be withdrawn.

Objection to the Specification

In the Office Action, the specification was objected to for not providing proper antecedent basis for the claim terms “set of time domain parameters,” “baseband phase-amplitude response,” and “frequency subband”. These objections are addressed in the remarks/arguments below responding to the § 112 rejections of the claims.

Objection to the Claims

In the Office Action, the claims were objected to for using the claim number “54” twice. This claim numbering problem derives from a Preliminary Amendment filed in the USPTO on October 14, 2003, in which the claim number “54” was inadvertently used twice. This error was corrected in a second Preliminary Amendment filed in the USPTO on July 12, 2004. Applicant requests, therefore, that the objections to the claims now be withdrawn.

35 U.S.C. § 112, First Paragraph, Claim Rejections -- Claims 43-61

In the Office Action, Claims 43-61 were rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the written description requirement. Specifically, independent Claims 43 and 61 (and by dependency all their dependent claims) were rejected for being “unclear” as to “how (b) imposing the information pattern as a set of time domain parameters on a signal, having at least as many time domain parameters as degrees of freedom, to produce an information communication signal; and (e) how the set of time domain parameters from a set of respective baseband phase-

amplitude responses is determined.” In light of the amendments to the claims above, and for the following reasons, Applicant respectfully believes that these rejections cannot be properly maintained..

Independent Claim 43 of the present application claims a “communication method” that includes an operation of “imposing the information pattern as a set of time domain parameters on a signal having at least as many excitation conditions as degrees of freedom of the information pattern, to produce an information communication signal.” This aspect of Claim 43 is discussed in detail throughout the patent application specification. For example, FIG. 1 (previously FIG. 13) and accompanying description on page 6, line 5 through page 7, line 4 of the specification describes how signal conditioning elements of a transponder impose time domain parameters on a signal. The detailed description of the present application describes in detail novel interrogation and decoding methods and apparatus, which may be used with such (or similar) transponders.

For example, in terms of exemplary embodiments, p. 16, lines 4-9, it is described that: “In determining the transponder tag code, the transponder is excited by at least the same number of differing hops as there are delay taps (degrees of freedom), and preferably are a larger number.” Page 21, lines 1-5 also discloses that “It is also an object of the invention to provide an apparatus and method for identifying a passive acoustic transponder or an object associated therewith, comprising placing a passive acoustic transponder in proximity to the object, the transponder having a set of characteristic signal perturbations selected from a signal perturbation space having a plurality of degrees of freedom, and producing a perturbed signal in response to an interrogation....”

Page 21, line 29 through page 22, line 3 also describes that “[t]he characteristic set of signal perturbations includes a pattern selected from a signal perturbation space having one or more degrees of freedom. Where the degrees of freedom include composite delays, these may be distinguished by providing an interrogation signal or set of signals including a plurality of differing frequencies no less in number than the number of degrees of freedom. There preferably are at least two times the number of differing frequencies as there are degrees of freedom....” Page 22, line 30 also describes an embodiment where the interrogation signal has a plurality successive states”. Page 26, lines 6-9 also describes an embodiment of the invention as employing “a frequency hopping spread spectrum signal having a pseudorandom sequence which excites a set of frequencies. Page 26, lines 21-29 also describe a “typical passive transponder device for use with the system has 16 degrees of freedom in its code space, generated by four bidirectional transducers, each wave having two sets of delay pad elements. Thus, the interrogator system analyzer must resolve the 16 degrees of freedom in order to identify the encoding of the transponder. In order to resolve these degrees of freedom, at least 16 distinct excitation conditions must be applied to the transponder....”

The foregoing demonstrates that the written description describing the subject matter in element (b) of Claim 43 is clear and plentiful.¹ Accordingly, Applicant respectfully believes that the § 112, first paragraph, rejection of Claim 43, as allegedly failing to comply with the written description requirement, cannot be properly maintained

¹ The specific exemplary references to the specification have been made for the sole purpose of demonstrating that the written description requirement of § 112, first paragraph, has been complied with.

on the basis that the subject matter recited in element (b) of Claim 43 is not described in the patent application specification.

Claim 61 includes substantially similar subject matter as recited in element (b) of Claim 43, except that it is in apparatus form.. Accordingly, the § 112, first paragraph, rejection of it cannot be properly maintained for substantially the same reasons provided above as to why the § 112, first paragraph, rejection of independent Claim 43 cannot be properly maintained.

Claim 43 was also rejected under § 112, first paragraph, for allegedly not providing a written description of element (e) of Claim 43. Element (e) of Claim 43 recites “(e) demodulating the received information communication signal to determine the set of time domain parameters from a set of respective baseband phase-amplitude responses.” As with the rejection grounded on the alleged lack of written description of element (b), Applicant disagrees with the rejection of element (e) here as allegedly not being supported by sufficient written description. A reading of the patent application specification reveals that the description of the subject matter in element (e) is clearly and plentifully set forth in the disclosure. For example, page 17, lines 15 through page 19, line 10 describes in detail, both demodulating a received information signal to baseband, and how this demodulation is performed to determine the set of time domain parameters from a set of respective baseband phase-amplitude responses. Similar and further description of exemplary embodiment of these operations recited in element (e) are provided on page 22, lines 12-24 and page 29, line 1 through page 30, line 5.

Accordingly, the specific exemplary references to the specification should not be regarded as limiting the

Applicant respectfully believes that the written description of the subject matter recited in element (e) of Claim 43 is clear and plentiful.² Accordingly, the § 112, first paragraph, rejection of Claim 43, as allegedly failing to comply with the written description requirement, cannot be properly maintained on the basis that the subject matter recited in element (e) of Claim 43 is not described in the patent application specification.

No reasons were provided in the Office Action as to why dependent Claims 44-60 were rejected under § 112, first paragraph. Apparently, the reason these dependent claims were rejected is because of their dependency on independent Claim 43. However, as discussed above, Claim 43 more than adequately complies with the written description requirement of § 112, first paragraph. A detailed and plentiful written description of the additional subject matter recited in Claims 44-60 themselves is also provided in the patent application specification. For at least the foregoing reasons, Applicant respectfully believes that the § 112, first paragraph, rejections of Claims 43-61 of the present application cannot be properly maintained and request, therefore, that the rejections be withdrawn.

claimed invention in any way.

² The specific exemplary references to the specification have been made for the sole purpose of demonstrating that the written description requirement of § 112, first paragraph, has been complied with. Accordingly, the specific exemplary references to the specification should not be regarded as limiting the claimed invention in any way.

35 U.S.C. § 112, Second Paragraph, Claim Rejections -- Claims 54 and 56-58

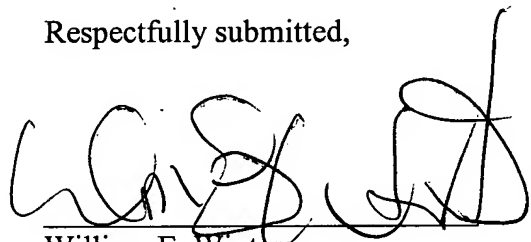
In the Office Action, Claims 54 and 56-58 were rejected under 35 U.S.C. § 112, second paragraph, for containing terms allegedly lacking antecedent basis. Because Claims 54 and 56-58 have been amended in a manner that renders the rejections inapplicable, Applicant request that the rejections be withdrawn.

CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 408-282-1857.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'W. E. Winters', written over a horizontal line.

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